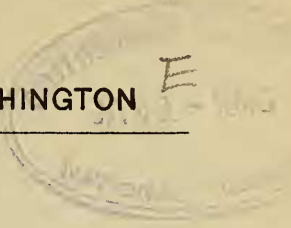


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A NEW KANGAROO-RAT FROM SOUTHWESTERN  
UTAH.

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Specimens of kangaroo-rats from southwestern Utah collected during the past two years seem to represent a hitherto undescribed race. A description of the important characters of this subspecies is provided below.

My thanks are given to Mr. S. D. Durrant of the Museum of Zoology of the University of Utah for the use of comparative material. The type specimen has been deposited with the University of Utah. The other specimens are in the author's private collection.

The capitalized color terms in this paper are after those used by Ridgway, Color Standards and Color Nomenclature, 1912.

**Dipodomys ordii cinderensis**, new subspecies.  
CINDER-CONE KANGAROO-RAT.

*Type*.—Male, adult, skin with skull; Museum of Zoology, University of Utah, No. 4611; at about 4,000 feet on sandy soil immediately north of the northern of two large cinder cones in Diamond Valley, 10 miles north of Saint George, Washington County, Utah; February 13, 1944; collected by Ross Hardy; original No. 2,690.

*Distribution*.—Known from sandy soils in sagebrush areas near the cinder cones of Diamond Valley and from similar areas of Mountain Meadows all in northern Washington County, Utah; north to the Escalante Desert and east to Parowan in Iron County, Utah.

*Diagnostic characters*.—A race closely allied to *Dipodomys ordii fetusus* but much darker in color, and with a shorter tail.

*Measurements (in mm.)*.—Type: total length, 232; tail vertebrae, 124; hind foot, 38; ear from notch, 14. Skull: condylobasal length, 29.9; occipitonasal length, 34.4; length of nasals, 13.9; inter-orbital width, 12.1; greatest breadth across bullae, 23.2; greatest length of bullae as measured parallel with auditory opening, 15.0; from ventral symphysis of bullae to ventral edge of audital opening, 13.0; maxillary breadth, 19.5;

maxillary tooth row (alveolar), 5.0; diastema, 7.9; length of left auditory opening, 3.7; width of supra-occipital at dorsal crest between bullae, 2.6.

The average and extreme measurements of nine adults (7 males, 2 females) from the type locality are: total length, 235.3 (222-250); tail length, 126.7 (118-138); hind foot, 40.0 (38-43); ear from notch, 13.2 (12-14). Skull: condylobasal length, 29.7 (28.8-30.5); occipitonasal length, 33.9 (32.8-35.0); length of nasals, 13.2 (12.6-14.0); inter-orbital width, 11.7 (11.0-12.1); greatest breadth across bullae, 23.0 (22.3-23.7); greatest length of bullae as measured parallel with auditory opening, 14.9 (14.3-15.2); from ventral symphysis of bullae to ventral edge of audital opening, 12.6 (11.7-13.7); maxillary breadth, 19.1 (18.2-20.0); maxillary tooth row, 5.0 (4.7-5.2); diastema, 7.9 (7.5-8.4); length of left auditory opening, 3.6 (3.2-3.9); width of supra-occipital at dorsal crest between bullae, 2.5 (1.9-3.2).

*Description of pelage.*—Color of type: General tone of upperparts near Buffy Brown mixed with blackish; cover hairs with subterminal band of Avellaneous tipped with black; clearer Avellaneous on the sides; dorsal hair pure Slate-Gray at base; dorsal tail stripe darker and more nearly black than ventral tail stripe and slightly wider than lateral white markings and extending to tip of tail; soles of feet, heels and inner sides of hind legs blackish; remaining underparts white; prominent arietiform markings of face, skin and most of hair on posterior half of ears, black.

*Comparisons.*—Compared with specimens of *fetusus* from the Desert Experiment Station in West Millard County, Utah, *cinderensis* is darker, not only in general pelage coloration but also has black instead of dark brown ears, darker facial markings and black instead of dark gray stripes on the tail and is slightly smaller than *fetusus* in cranial measurements. Compared with *panguitchensis* paratypes, *cinderensis* differs very little if any in color, but some specimens are slightly paler and many have white hairs on the upper posterior fold of the ear which *panguitchensis* lacks. From this race, *cinderensis* also differs in its smaller size, shorter tail, slightly larger skull with proportionately large bullae which are less widely separated by the supra-occipital on the dorsal surface of the skull. The auditory opening averages smaller in *cinderensis* than in *panguitchensis*. The maxillary tooth rows (alveolar) average greater in length in *cinderensis*. Compared with *cupidineus* from Kane County, *cinderensis* is much darker, smaller and has a shorter tail and a smaller skull with smaller bullae. Compared with *utahensis* topotypes, this new subspecies is smaller and has a shorter tail, a shorter diastema, more attenuate and less truncate ascending arms of supra-occipital and is darker in color. Compared with topotypes of *celeripes* from Trout Creek, Juab County, this race is larger, has a longer tail, but averages slightly smaller in most cranial measurements and is very much darker in color. Compared with *longipes* from southeastern Utah, this race is darker in color, slightly smaller, has shorter skull and shorter nasals, is narrower in interorbital width, has smaller bullae but a wider supra-occipital posterior to the interparietal.

*Remarks.*—The low Virgin Valley to the south and the Pine Valley

Mountains and the rough, rocky Zion Canyon area to the southeast of Diamond Valley separate *cinderensis* from *cupidineus*. The high Parowan (or Cedar) Mountains rising from 9,000 to 11,300 feet separate *cinderensis* from the similarly colored cinder-inhabiting *panguitchensis* on the east. If *cinderensis* and *panguitchensis* do intergrade, it would of necessity be through the lower desert areas north and northwest of these mountains.

A series of nine specimens from about six miles west of Parowan and directly south of Little Salt Lake are variable in color but lighter than either *cinderensis* or *panguitchensis*. However, they have dark-colored ears and are otherwise darker than *fetusus*. In total length they average almost the same as *panguitchensis* but in tail length and foot size are nearer *fetusus*. In cranial characters, they seem to be intergrades between *fetusus* and *cinderensis*. They could be as easily referred to one race as to another but are tentatively placed with *cinderensis*.

A series of 50 (including 5 juvenile) kangaroo-rats all taken the same night on the brown sand dunes of the Escalante Desert, 11 miles southeast of Lund, Iron County, are even more variable than the above series from near Parowan. The series of 45 adults contains individuals some of which are even lighter than *fetusus* and others as dark as *cinderensis*. Most of these have the black ears and dark markings of *cinderensis*.

In the total length they average only slightly more than either *cinderensis* or *fetusus* but have the short tail of *cinderensis*. These animals are considered as intergrades between these races but are tentatively placed with *cinderensis*.

*Specimens examined*.—Utah. Total number 71, as follows: *Washington County*.—From type locality at Diamond Valley (altitude about 4,000 feet), 10; from north of Mountain Meadows,  $\frac{1}{2}$  mile within the Great Basin Drainage, 2. *Iron County*.—Escalante Desert, 11 miles southeast of Lund, 50; 6 miles west of Parowan, 9.